



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Laboratory Services and Applied Science Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0217

Project: 21-0217, Piney Point - Phase 1 - Reported by Floyd Wellborn

April 12, 2021

**MEMORANDUM**

**SUBJECT:** FINAL Analytical Report  
Project: 21-0217, Piney Point - Phase 1

**FROM:** Floyd Wellborn  
LSB Inorganic Chemistry Section Chief

**THRU:** Sandra Aker, Chief  
Laboratory Services Branch

**TO:** Floyd Wellborn

Attached are the final results for the analytical groups listed below. This report shall not be reproduced except in full without approval of the Region 4 laboratory. These analyses were performed in accordance with the Laboratory Services Branch's Laboratory Operations and Quality Assurance Manual (LSB LOQAM) found at [www.epa.gov/region4/sesd/asbsop](http://www.epa.gov/region4/sesd/asbsop). Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the LSB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Chapter 5 of the LSB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:

Method Used:

Accreditations:

**Total Metals (TMTL)**

Total Metals  
Total Metals  
Total Metals

EPA 200.7 (Water)  
EPA 200.7 (Water)  
EPA 200.8 (Water)

ISO  
ISO/DW  
ISO/DW



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**Report Narrative for Work Order: E211509 Analysis: TMTL**

4/12/21 FW Metals: Boron was not spiked into the second source laboratory control sample. No LCS recovery was available for evaluation against the method criteria. Boron was spiked into the minimum reporting limit verification sample (-PS1) and carried through the entire sample preparation and analysis process. The -PS1 sample had a 96.6 % recovery. However, it not a separate source from the calibration standard and cannot be used as an LCS per the standard operating procedure.

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**Sample Disposal Policy**

Due to limited space for long term sample storage, LSB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at [R4SampleCustody@epa.gov](mailto:R4SampleCustody@epa.gov).

cc: Nardina Turner



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**SAMPLES INCLUDED IN THIS REPORT**

**Project: 21-0217, Piney Point - Phase 1**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
NW. Ditch	E211509-01	Saline Water	4/8/21 10:51	4/9/21 10:50
Decant Outfall	E211509-02	Saline Water	4/8/21 11:52	4/9/21 10:50



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### DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
CR	Boron not added to BS/MS/MSD.
J	The identification of the analyte is acceptable; the reported value is an estimate.
Q-2	Result greater than MDL but less than MRL.
QM-1	Matrix Spike Recovery less than method control limits

### ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service  Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System ( <a href="http://www.epa.gov/srs">www.epa.gov/srs</a> ), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
MDL	Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
MRL	Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
TIC	Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

### ACCREDITATIONS:

ISO	Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Laboratories.  Refer to the certificate and scope of accreditation FT-0330 at: <a href="http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd">http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd</a>
NR	Not accredited for this test.
DW	Accredited for conformance with ISO/IEC 17025:2017 and testing elements in the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, 2005.  Refer to the certificate and scope of accreditation AT-2628 at: <a href="http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd">http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd</a>
ISO/DW	Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Labs, and conformance with ISO/IEC 17025:2017 and testing elements in the Manual for the Certification of Laboratories Analyzing Drinking Water.



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## Total Metals

Project: 21-0217, Piney Point - Phase 1

Sample ID: NW. Ditch

Lab ID: E211509-01

Station ID:

Matrix: Saline Water

Date Collected: 4/8/21 10:51

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7429-90-5	Aluminum	1400		ug/L	14 40	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-36-0	Antimony	2.0	U	ug/L	0.48 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-38-2	Arsenic	26		ug/L	1.3 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-41-7	Beryllium	1.0	U	ug/L	0.33 1.0	4/09/21 13:10	4/11/21 16:54	EPA 200.8
7440-42-8	Boron	1300	J, CR	ug/L	50 500	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-43-9	Cadmium	1.2		ug/L	0.37 1.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-70-2	Calcium	370000		ug/L	830 2500	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-47-3	Chromium	4.0	U	ug/L	2.4 4.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-48-4	Cobalt	6.6		ug/L	0.65 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-50-8	Copper	1.7	J, Q-2	ug/L	0.95 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7439-89-6	Iron	3500		ug/L	390 1000	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7439-92-1	Lead	0.33	J, Q-2	ug/L	0.25 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7439-95-4	Magnesium	390000		ug/L	600 2500	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7439-96-5	Manganese	230		ug/L	9.0 50	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7439-98-7	Molybdenum	1.6	J, Q-2	ug/L	0.89 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-02-0	Nickel	23		ug/L	1.3 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-09-7	Potassium	150000		ug/L	830 10000	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7782-49-2	Selenium	4.0	U	ug/L	3.2 4.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-22-4	Silver	1.0	U	ug/L	0.20 1.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-23-5	Sodium	2800000		ug/L	1000 10000	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-24-6	Strontium	3200		ug/L	16 50	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-28-0	Thallium	2.0	U	ug/L	0.24 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-31-5	Tin	20	J, Q-2	ug/L	15 150	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-32-6	Titanium	50	U	ug/L	6.1 50	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-61-1	Uranium	1.8	J, Q-2	ug/L	0.42 2.0	4/09/21 13:10	4/11/21 21:41	EPA 200.8
7440-62-2	Vanadium	50	U, J, QM-1	ug/L	19 50	4/09/21 18:03	4/11/21 13:19	EPA 200.7
7440-66-6	Zinc	100	U	ug/L	11 100	4/09/21 18:03	4/11/21 13:19	EPA 200.7



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## Total Metals

Project: 21-0217, Piney Point - Phase 1

Sample ID: Decant Outfall

Lab ID: E211509-02

Station ID:

Matrix: Saline Water

Date Collected: 4/8/21 11:52

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7429-90-5	Aluminum	1200		ug/L	14 40	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-36-0	Antimony	2.0	U	ug/L	0.48 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-38-2	Arsenic	29		ug/L	1.3 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-41-7	Beryllium	1.0	U	ug/L	0.33 1.0	4/09/21 13:10	4/11/21 17:14	EPA 200.8
7440-42-8	Boron	1200	J, CR	ug/L	50 500	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-43-9	Cadmium	1.0		ug/L	0.37 1.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-70-2	Calcium	280000		ug/L	830 2500	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-47-3	Chromium	2.6	J, Q-2	ug/L	2.4 4.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-48-4	Cobalt	7.9		ug/L	0.65 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-50-8	Copper	2.0	U	ug/L	0.95 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7439-89-6	Iron	1500		ug/L	390 1000	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7439-92-1	Lead	2.0	U, J, Q-2	ug/L	0.25 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7439-95-4	Magnesium	370000		ug/L	600 2500	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7439-96-5	Manganese	190		ug/L	9.0 50	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7439-98-7	Molybdenum	1.0	J, Q-2	ug/L	0.89 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-02-0	Nickel	36		ug/L	1.3 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-09-7	Potassium	140000		ug/L	830 10000	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7782-49-2	Selenium	4.0	U	ug/L	3.2 4.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-22-4	Silver	1.0	U	ug/L	0.20 1.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-23-5	Sodium	2600000		ug/L	1000 10000	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-24-6	Strontium	3100		ug/L	16 50	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-28-0	Thallium	2.0	U	ug/L	0.24 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-31-5	Tin	17	J, Q-2	ug/L	15 150	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-32-6	Titanium	50	U	ug/L	6.1 50	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-61-1	Uranium	0.72	J, Q-2	ug/L	0.42 2.0	4/09/21 13:10	4/11/21 22:01	EPA 200.8
7440-62-2	Vanadium	50	U	ug/L	19 50	4/09/21 18:03	4/11/21 13:30	EPA 200.7
7440-66-6	Zinc	100	U	ug/L	11 100	4/09/21 18:03	4/11/21 13:30	EPA 200.7



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104027 - M 200.2 Metals Water**

**Blank (2104027-BLK1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.7**

Boron	U	50	ug/L							U
Calcium	U	250	"							U
Iron	U	100	"							U
Magnesium	U	250	"							U
Manganese	U	5.0	"							U
Potassium	U	1000	"							U
Sodium	U	1000	"							U
Strontium	U	5.0	"							U
Tin	U	15	"							U
Titanium	U	5.0	"							U
Vanadium	U	5.0	"							U
Zinc	U	10	"							U

**LCS (2104027-BS1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.7**

Boron	U	50	ug/L				85-115			U
Calcium	4800.9	250	"	5000.0		96.0	85-115			
Iron	4987.9	100	"	5000.0		99.8	85-115			
Magnesium	4949.8	250	"	5000.0		99.0	85-115			
Manganese	485.86	5.0	"	500.00		97.2	85-115			
Potassium	9204.3	1000	"	10000		92.0	85-115			
Sodium	9614.3	1000	"	10000		96.1	85-115			
Strontium	97.364	5.0	"	100.00		97.4	85-115			
Tin	96.869	15	"	100.00		96.9	85-115			
Titanium	97.009	5.0	"	100.00		97.0	85-115			
Vanadium	91.428	5.0	"	100.00		91.4	85-115			
Zinc	194.24	10	"	200.00		97.1	85-115			

**Matrix Spike (2104027-MS1)**

Source: E211509-01

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.7**

Boron	1396.8	500	ug/L		1304.5		70-130			CR
Calcium	401260	2500	"	5000.0	370640	612	70-130			XM-1
Iron	8254.9	1000	"	5000.0	3513.7	94.8	70-130			
Magnesium	421220	2500	"	5000.0	388540	654	70-130			XM-1
Manganese	696.13	50	"	500.00	228.49	93.5	70-130			
Potassium	171360	10000	"	10000	151840	195	70-130			XM-1
Sodium	2964500	10000	"	10000	2754500	2100	70-130			XM-1
Strontium	3474.2	50	"	100.00	3155.6	319	70-130			XM-1



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104027 - M 200.2 Metals Water**

**Matrix Spike (2104027-MS1)**

Source: E211509-01

Prepared: 04/09/21 Analyzed: 04/11/21

Tin	125.59	150	ug/L	100.00	20.192	105	70-130			
Titanium	85.169	50	"	100.00	U	85.2	70-130			
Vanadium	74.010	50	"	100.00	U	74.0	70-130			
Zinc	180.50	100	"	200.00	U	90.3	70-130			

**Matrix Spike Dup (2104027-MSD1)**

Source: E211509-01

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.7**

Boron	1277.3	500	ug/L		1304.5		70-130	8.94	20	CR
Calcium	369600	2500	"	5000.0	370640	-20.8	70-130	8.21	20	XM-1
Iron	7725.9	1000	"	5000.0	3513.7	84.2	70-130	6.62	20	
Magnesium	387010	2500	"	5000.0	388540	-30.6	70-130	8.47	20	XM-1
Manganese	646.75	50	"	500.00	228.49	83.7	70-130	7.35	20	
Potassium	157160	10000	"	10000	151840	53.2	70-130	8.64	20	XM-1
Sodium	2700900	10000	"	10000	2754500	-536	70-130	9.30	20	XM-1
Strontium	3191.3	50	"	100.00	3155.6	35.7	70-130	8.49	20	XM-1
Tin	104.82	150	"	100.00	20.192	84.6	70-130	18.0	20	
Titanium	82.134	50	"	100.00	U	82.1	70-130	3.63	20	
Vanadium	60.552	50	"	100.00	U	60.6	70-130	20.0	20	QM-1
Zinc	169.52	100	"	200.00	U	84.8	70-130	6.28	20	

**MRL Verification (2104027-PS1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.7**

Boron	48.286	50	ug/L	50.000		96.6	70-130			MRL-2
Calcium	238.25	250	"	250.00		95.3	70-130			MRL-2
Iron	100.63	100	"	100.00		101	70-130			MRL-2
Magnesium	238.00	250	"	250.00		95.2	70-130			MRL-2
Manganese	4.8351	5.0	"	5.0000		96.7	70-130			MRL-2
Potassium	904.37	1000	"	1000.0		90.4	70-130			MRL-2
Sodium	919.81	1000	"	1000.0		92.0	70-130			MRL-2
Strontium	4.8233	5.0	"	5.0000		96.5	70-130			MRL-2
Tin	14.193	15	"	15.000		94.6	70-130			MRL-2
Titanium	4.9573	5.0	"	5.0000		99.1	70-130			MRL-2
Vanadium	4.0668	5.0	"	5.0000		81.3	70-130			MRL-2
Zinc	9.7098	10	"	10.000		97.1	70-130			MRL-2



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104028 - M 200.2 Metals Water**

**Blank (2104028-BLK1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Beryllium	U	0.25	ug/L							U
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**Blank (2104028-BLK2)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Aluminum	11.918		ug/L	0.0000						B-3
Antimony	0.010444		"	0.0000						
Arsenic	0.0045350		"	0.0000						
Cadmium	-0.0095340		"	0.0000						U
Chromium	0.041677		"	0.0000						
Cobalt	0.0065450		"	0.0000						
Copper	0.023320		"	0.0000						
Lead	-0.016129		"	0.0000						U
Molybdenum	0.070053		"	0.0000						
Nickel	0.011640		"	0.0000						
Selenium	0.059328		"	0.0000						
Silver	0.00027500		"	0.0000						
Thallium	-0.024135		"	0.0000						U
Uranium	-0.012927		"	0.0000						U

**LCS (2104028-BS1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Beryllium	48.486	1.0	ug/L	50.000		97.0	85-115			
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**LCS (2104028-BS2)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Aluminum	5076.4	40	ug/L	5000.0		102	85-115			
Antimony	192.07	2.0	"	200.00		96.0	85-115			
Arsenic	198.68	2.0	"	200.00		99.3	85-115			
Cadmium	50.474	1.0	"	50.000		101	85-115			
Chromium	208.92	4.0	"	200.00		104	85-115			
Cobalt	99.707	2.0	"	100.00		99.7	85-115			
Copper	102.25	2.0	"	100.00		102	85-115			
Lead	201.55	2.0	"	200.00		101	85-115			
Molybdenum	97.213	2.0	"	100.00		97.2	85-115			
Nickel	201.04	2.0	"	200.00		101	85-115			
Selenium	201.55	4.0	"	200.00		101	85-115			
Silver	102.69	1.0	"	100.00		103	85-115			
Thallium	195.32	2.0	"	200.00		97.7	85-115			



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Laboratory Services and Applied Science Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0217

Project: 21-0217, Piney Point - Phase 1 - Reported by Floyd Wellborn

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104028 - M 200.2 Metals Water**

**LCS (2104028-BS2)**

Prepared: 04/09/21 Analyzed: 04/11/21

Uranium	189.33	2.0	ug/L	200.00		94.7	85-115
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**Matrix Spike (2104028-MS1)**

Source: E211509-01

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Beryllium	40.429	1.0	ug/L	50.000	U	80.9	70-130
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**Matrix Spike (2104028-MS2)**

Source: E211509-01RE1

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Aluminum	6029.6	40	ug/L	5000.0	1437.1	91.8	70-130
Antimony	185.57	2.0	"	200.00	U	92.8	70-130
Arsenic	216.57	2.0	"	200.00	26.199	95.2	70-130
Cadmium	44.749	1.0	"	50.000	1.1534	87.2	70-130
Chromium	194.09	4.0	"	200.00	U	97.0	70-130
Cobalt	105.89	2.0	"	100.00	6.6258	99.3	70-130
Copper	88.335	2.0	"	100.00	1.6784	86.7	70-130
Lead	176.05	2.0	"	200.00	0.32832	87.9	70-130
Molybdenum	113.74	2.0	"	100.00	1.5546	112	70-130
Nickel	205.17	2.0	"	200.00	23.166	91.0	70-130
Selenium	206.56	4.0	"	200.00	U	103	70-130
Silver	81.364	1.0	"	100.00	U	81.4	70-130
Thallium	181.01	2.0	"	200.00	U	90.5	70-130
Uranium	191.07	2.0	"	200.00	1.8333	94.6	70-130

**Matrix Spike Dup (2104028-MSD1)**

Source: E211509-01

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Beryllium	40.090	1.0	ug/L	50.000	U	80.2	70-130	0.840	20
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**Matrix Spike Dup (2104028-MSD2)**

Source: E211509-01RE1

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Aluminum	5921.7	40	ug/L	5000.0	1437.1	89.7	70-130	1.80	20
Antimony	184.19	2.0	"	200.00	U	92.1	70-130	0.749	20
Arsenic	215.61	2.0	"	200.00	26.199	94.7	70-130	0.441	20
Cadmium	42.995	1.0	"	50.000	1.1534	83.7	70-130	4.00	20
Chromium	194.07	4.0	"	200.00	U	97.0	70-130	0.00696	20
Cobalt	104.62	2.0	"	100.00	6.6258	98.0	70-130	1.21	20
Copper	87.841	2.0	"	100.00	1.6784	86.2	70-130	0.560	20
Lead	170.21	2.0	"	200.00	0.32832	84.9	70-130	3.37	20
Molybdenum	113.82	2.0	"	100.00	1.5546	112	70-130	0.0732	20



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104028 - M 200.2 Metals Water**

**Matrix Spike Dup (2104028-MSD2)**

Source: E211509-01RE1

Prepared: 04/09/21 Analyzed: 04/11/21

Nickel	202.45	2.0	ug/L	200.00	23.166	89.6	70-130	1.33	20	
Selenium	194.58	4.0	"	200.00	U	97.3	70-130	5.97	20	
Silver	80.240	1.0	"	100.00	U	80.2	70-130	1.39	20	
Thallium	174.32	2.0	"	200.00	U	87.2	70-130	3.76	20	
Uranium	180.78	2.0	"	200.00	1.8333	89.5	70-130	5.53	20	

**MRL Verification (2104028-PS1)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Beryllium	0.51707	0.25	ug/L	0.50000		103	65-135			MRL-2
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**MRL Verification (2104028-PS2)**

Prepared: 04/09/21 Analyzed: 04/11/21

**EPA 200.8**

Aluminum	24.330		ug/L	0.0000			65-135			MRL-2
Antimony	0.57967		"	0.0000			65-135			MRL-2
Arsenic	1.2108		"	0.0000			65-135			MRL-2
Cadmium	0.55454		"	0.0000			65-135			MRL-2
Chromium	2.0124		"	0.0000			65-135			MRL-2
Cobalt	1.0300		"	0.0000			65-135			MRL-2
Copper	1.1062		"	0.0000			65-135			MRL-2
Lead	1.0779		"	0.0000			65-135			MRL-2
Molybdenum	0.48218		"	0.0000			65-135			MRL-2
Nickel	1.0922		"	0.0000			65-135			MRL-2
Selenium	2.3065		"	0.0000			65-135			MRL-2
Silver	0.53477		"	0.0000			65-135			MRL-2
Thallium	0.50293		"	0.0000			65-135			MRL-2
Uranium	1.0061		"	0.0000			65-135			MRL-2



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**Notes and Definitions for QC Samples**

U	The analyte was not detected at or above the reporting limit.
B-3	Level in blank does not impact data quality
CR	Boron not added to BS/MS/MSD.
MRL-2	MRL verification for Non-Potable Water matrix
QM-1	Matrix Spike Recovery less than method control limits
XM-1	Sample background/spike ratio higher than method evaluation criteria